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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/524,622

03/17/2005

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EXAMINER

KERNS, KEVIN P

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

03/18/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/524,622	Applicant(s) OGATA ET AL.	
	Examiner Kevin P. Kerns	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2007 and 27 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claim 1 insofar as definite (in the absence of a complete translation of the newly applied Japanese reference JP 63-132755, for which a complete translation has been requested) is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 63-132755 (previously cited in PTO-892 of the Office Action mailed February 9, 2007) in view of JP 61-256961 (complete translation was provided in the final rejection mailed June 26, 2007).

JP 63-132755 (see abstract; and Figures 1a and 1b) discloses an immersion nozzle situated adjacent a molten metal level of a continuous casting apparatus (as a portion of a ladle or tundish for casting of molten steel) and a method of the manufacture of the nozzle, in which the method includes integrally molding and burning/applying a refractory compound that includes graphite, CaO, and zirconia to an inner hole wall 4 of the nozzle 1 to form a coating layer 2 (Figure 1), such that the coating layer 2 includes 50-100% CaO-quality refractory (i.e. more than 10% by mass of clinker particles) that prevents precipitated alumina in the molten steel from clogging the nozzle 1, in which "100% CaO-quality refractory" would be considered as (free, independent) mineral phase CaO since it is 100% (essentially pure) CaO (abstract; Japanese text; and Figures 1a and 1b). JP 63-132755 does not disclose using an anti-hydration treatment on the surface of a portion of the CaO-containing clinker particles, which includes CaO conversion to CaCO_3 .

However, JP 61-256961 (see translation) discloses a calcitic clinker that comprises CaO and a covering layer of CaCO_3 on its surface, with the CaCO_3 being carbonated (anti-hydration treatment) by heating of CaO in an atmosphere containing CO_2 , and allowing conversion to CaCO_3 , for the purpose of obtaining a calcitic clinker having high resistance to slaking/crumbling (abstract; and pages 6-24 of translation).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to modify the continuous casting immersion nozzle and method for its production, as disclosed by JP 63-132755, by using the anti-hydration treatment on the surface of a portion of the CaO-containing clinker particles, which

includes CaO conversion to CaCO_3 , as taught by JP 61-256961, in order to obtain a calcitic clinker having high resistance to slaking/crumbling (JP 61-256961; abstract; and [Means of Solving the Problems] and [Effect of the Invention] sections on pages 7 and 24 of translation, respectively).

Response to Arguments

4. The examiner acknowledges the applicants' after final amendment entered upon filing of the request for continued examination, which were received by the USPTO on November 20, 2007 and December 27, 2007, respectively. Upon further consideration of the applicants' amendments to independent claim 1 (and as discussed in the interview of January 15, 2008), the JP 7-40015 reference has been withdrawn as a prior art rejection under 35 USC 103(a). However, new grounds of rejection under 35 USC 103(a) are presented in above section 3. The applicants have cancelled claim 2. Claim 1 is currently under consideration in the application.

5. Applicants' arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kevin P. Kerns whose telephone number is

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(571)272-1178. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kevin P. Kerns
Primary Examiner
Art Unit 1793

/Kevin P. Kerns/
Primary Examiner, Art Unit 1793
February 24, 2008